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ABSTRACT

Theories concerning dimensions and dynamics of college student development and theories about how colleges exert influence on student change are reviewed. The models deal principally with growth among traditional undergraduate students. The theories of Chickering, Perry, Kohlberg, and Loevinger address the nature, structure, and processes the define individual human growth. The emphasis is on stages or levels of development. The theories of Astin, Tinto, and Pascarella focus on the environmental origins of student change or development. Specifically, consideration is given to: Chickering's seven vectors of student development, Perry's scheme of intellectual and ethical development, Kohlberg's theory of moral development, Loevinger's milestones of ego development, Astin's theory of involvement, Tinto's theory of student departure, and Pascarella's general model for assessing change. Substantive and process similarities are identified among the developmental theories, and critiques of the developmental approach are reviewed. Thirty-five references are cited. (SW)

A REVIEW OF SELECTED THEORETICAL MODELS OF STUDENT DEVELOPMENT AND COLLEGIATE IMPACT

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A REVIEW OF SELECTED THEORETICAL MODELS OF STUDENT DEVELOPMENT AND COLLEGIATE IMPACT

Abstract

This paper reviews the theories of Chickering, Perry, Kohlberg, and Loevinger on the dimensions and dynamics of college student development, as well as the theories of Astin, Tinto, and Pascarella on how colleges and universities exert influence on student change. Substantive and process similarities are identified among the developmnetal theories, and critiques of the developmental approach are reviewed. Potentially fruitful alternative approaches to the study of student change are suggested.

A REVIEW OF SELECTED THEORETICAL MODELS OF STUDENT DEVELOPMENT AND COLLEGIATE IMPACT

Much of the early research on college students was descriptive and atheoretical. Katz and Sanford (1962) noted "the lack of theory that could serve as a guide for (curricular) studies" (p. 419), and Chickering, reflecting in 1969 on the flood of research on college students precipitated by Jacob (1957), wrote that "These burgeoning efforts, almost witnout exception, have been exploratory. Few theories have been framed, few hypotheses tested. Thus, though much useful knowledge has been generated, it has remained in unintegrated form" (Chickering, 1969, pp. 4-5).

Since the late 1960s and early 1970s, however, an impressive number of formal theories (and some less well-developed but still useful "models") of student development have been advanced. Indeed, the growth in theory development is one of the most striking and significant trends in the study of collegiate impact over the last two decades. In fact, the study of the influence of the collegiate experience now suffers from a virtual theoretical glut. Depending upon how strictly one wishes to define "theory," some twenty candidates can be identified to guide an inquiry into how students grow in the collegiate setting and what institutional conditions, programs or services influence that growth. Moreover, for the last twenty-five years, the study of college students and the training of many higher educational researchers and administrators have been dominated by psychological paradigms. Other conceptual approaches to the explanation of change among college student have attracted little attention.

The problem is not only number, but also the variety of theories even within the developmental tradition. All attempt to describe an apparently similar process, but do so in ways that involve apparently different approaches and dimensions and manifestly different nomenclatures. Unless one wishes to assume that one theory or conception is as good as another, however, researchers now confront questions about the similarities and differences, of alternative models and the appropriateness of each for the question(s) under consideration.

This paper is intended to facilitate the consideration and selection of an appropriate theoretical model for the study of collegiate impact on students, or for the development of academic and non-academic programs and services intended to facilitate student development. These goals are approached through 1) a very brief review of selected theories of college student development that have received widespread attention in the theoretical or empirical literature; 2) the identification of those features common to those theories; 3) a critique of the dominant theories of college student development, and 4) the suggestion of potentially fruitful alternative approaches to the study of student change. The overall objective of the paper is to bring some conceptual coherence to our understanding of how college students grow and why. No attempt is made to develop a comprehensive, integrated theory, something that at this stage of theory development and validation is probably an impossible task anyway.

The models reviewed deal principally with growth among traditional undergraduate students and were those a review of existing theories and research indicates: 1) have had a significant influence on our thinking

about student development, or 2) have provided the theoretical underpinnings of a substantial body of research on college student change or the effects of college on students. Several models meeting one or both of these criteria have been excluded, however. For example, Holland's (1966) theory of vocational choice as an expression of personality, despite a substantial research literature generally supportive of his classification scheme, is excluded because of its primarily descriptive and taxonomic rather than explanatory character. Similarly, the work of Pace and Stern (e.g., Pace & Stern, 1958; Pace, 1983; Stern, 1970) is also excluded inasmuch as their principal focus appears to be the description and measurement of college students and environments rather than the explanation of how students grow, change or develop during the college years, or of which environmental conditions or structures play a major role in students' educational lives.

Change vs. Development

Before proceeding, it will be well to differentiate between "change" and "development," and to have some general understanding of what is meant by each term. "Change" is understood, here, to mean simply alterations in students' cognitive or affective characteristics that occur over time. It is a descriptive and value-free term. "Development," on the other hand, has generated considerable philosophical and theoretical debate among psychologists and sociologists and others for some time, and no attempt is made here to settle the matter. According to Lerner, (1986) however, some general agreement exists on the basic characteristics of "development," through whichever

disciplinary lens it is viewed. Those basic agreements, when aggregated, suggest that development is constituted by changes in an organism that are "systematic, (organized and) successive . . . and are thought to serve an adaptive function, i.e., to enhance survival" (p. 41). Because the concept of development has its historic origins in biology, "the unit of concern (or analysis) for most psychologists is typically an individual organism" (Learner, 1986, p. 41). As we shall see, the origins of those changes, and the biological metaphor common among developmental psychologists (with its suggestions of a genetically-based developmental sequence and its tendency to focus analytical attention on individuals), draws considerable conceptual criticism from sociologists.

Categories of Theories of College Student Change

While a number of taxonomies of theories of student change can be developed two general classes are discernible in the literature on college students. One addresses the nature, structure and processes that define individual, human growth These "developmental" theories typically describe the dimensions of student development and the phases of individual growth along each dimension. This class of theory is dominated by, but non exclusive to, "stage" theories, which posit one or another series of levels of development through which individuals pass in an invariant and hierarchical sequence. Theories in this general class reviewed in this paper include those of Chickering (1969), Perry (1970), Kohlberg (1969), and Loevinger (1976).

A second general class of models for the study of college student change focuses not on individual development, but rather on the

environmental origins of student change or development, particularly on the sources of change that lie outside the individual. These more eclectic "impact" models sociological identify sets of variables that are presumed to exert an influence on one or more aspect of student change, often with a particular emphasis emphasis on institutional effects on change or development. Some of these variable sets are student-related (e.g., academic aptitude and previous achievement levels, socio-economic status, race/ethnicity), some are structural and organizational (e.g., size, type of control, selectivity), and still others are environmental (e.g., the academic, cultural, and/or political climate created by faculty and students). Typically, these models also specify and provide for the interaction of student and environmental characteristics within the organizational context. Models in this category of theories that will be include those of Astin (1985), Tinto (1975, 1987), and Pascarella (1980, 1985).

DEVELOPMENTAL THEORIES OF STUDENT CHANGE

This section offers a brief summary of four of the most prominent theories of individual human development currently being used to study college students: those of Chickering (1969) Perry (1970) Kohlberg (1969, 1983), and Loevinger (1976). Because detailed explication is beyond the scope of the present paper, persons interested in more detail are encouraged to consult the original statements of the theories.

Chickering's Seven Vectors of Student Development

Chickering (1969), based on a review of the available research literature, identifies seven "vectors of development," so labeled "because each seems to have direction and magnitude -- even though the direction may be expressed more appropriately by a spiral or by steps than by a straight line" (p. 8). "Identity" is a central concern in Chickering's model, and his seven vectors are intended to give greater specificity to that concept. For Chickering, "development along each vector involves cycles of differentiation and integration. . . . the student continually apprehends more complexity, . . . These more differentiated perceptions and behaviors are subsequently integrated and organized so that a coherent picture of himself is established. Growth along the vectors is not simple maturational unfolding but requires stimulation" (Widick, Parker, & Knefelkamp, 1978, p. 21).

Chickering's first three vectors (Achieving Competence, Managing Emotions, and Developing Autonomy) each deal with the individual's development of mastery over some aspect of self or environment. Intellectual competence is important because of the dependence of other areas of growth on the individual's "ability to symbolize abstractly the events and objects of one's experience" (Chickering, 1969, p. 27). Emerging competence in intellectual, physical and social areas, together with increasing control over emotions having both physiological and emotional origins, facilitates development of autonomy, independence from parents, but also the growing recognition of interdependence and the importance of others.

The fourth vector, "Establishing Identity," is a pivotal one. Establishment of identity depends in part on growth along the vectors of competence, emotions and autonomy. Moreover, identity development is presumed to foster and facilitate development on the remaining vectors: Freeing Interpersonal Relationships, Developing Purpose, and Developing Integrity. Progress along this last vector culminates in "the clarification of a personally valid set of beliefs" (Chickering, 1969, p. 17).

Perry's Scheme of Intellectual and Ethical Development

William Perry (1970) sought to map the development he observed clinically in the "structures which the students explicitly or implicitly impute to the world, especially those structures in which they construe the nature and origins of knowledge, of value, and of responsibility" (p. 1). His model, or "scheme," asserts that the developmental sequence of forms "manifests a logical order -- an order in which one form leads to another through differentiations and reorganizations required for the meaningful interpretation of increasingly complex experience" (p. 3). Perry (1981, p. 79) offers the following clusters of his nine developmental positions:

Dualism Modified (Positions 1-3). In the early positions, students order their worlds in dualistic, dichotomous and absolute categories. Knowledge is presumed to be absolute and known to authorities. By Position 3, however, "Multiplicity," the existence of multiple perspectives on any given issue, is recognized. Indeed, all points of view are seen as having equal claims to correctness.

Relativism Discovered (Positions 4-6). Recognition of multiplicity in the world leads to understanding that "knowledge is contextual and relative" (King, 1978, p. 38). Students are able to critique their own ideas, as well as those of others, and they recognize that not all positions are equally valid. Discovery of relativism in ideas and values can, however lead to a reluctance to choose among presumably comparable alternatives, and subsequent development may be delayed.

Commitments in Relativism Developed (Positions 7-9). Students moving through these positions "have made an active affirmation of themselves and their responsibilities in a pluralistic world, establishing their identities in the process" (King, 1978, p. 39). Commitments are made to ideas, to values, to behaviors, and to other persons (e.g., in marriage and careers).

Kohlberg's Theory of Moral Development.

Like the Perry scheme, Lawrence Kohlberg's theory of moral development (Kohlberg, 1969; Kohlberg, Levine, & Hewer, 1983) seeks to delineate the nature and sequence of progressive changes in individuals' cognitive structures and rules for processing information that give meaning and coherence to their worlds. Kohlberg's principal concern, however, is not with the content of moral choice (which can be socially or culturally determined), but with modes of reasoning, with the processes by which choices are made. The developmental passage is through a presumably invariant sequence of three general levels of moral reasoning, each with two stages (for a total of six stages).

Level I: Preconventional. In the initial stages of moral development, physical consequences determine the goodness or badness of

behavior. The individual recognizes and defers to superior physical strength out of self-interest. At the second stage, "right" actions are those that satisfy one's needs, but signs of an emerging relativism are apparent. The needs of others might be acknowledged, but reciprocity is a matter of "You scratch my back and I'll scratch yours".

Level II: Conventional. Behavior at this level is guided by a need for approval, particularly from those closest to the individual (e.g., parents and peer group). Respect for authority as a social obligation emerges later at this level, and "Moral judgments are based on concerns to maintain the social order and to meet the expectations of others. Law is seen . . . as necessary to protect and maintain the group as a whole" (Nucci & Pascarella, 1987, p. 273).

Level III: Postconventional. At this level of development the emphasis is on "equality and mutual obligation within a democratically established order" (Kohlberg, 1972, p. 15). Duty is seen as a contract, and violations of the rights of others or the will of the majority are avoided. At Stage 6, the highest level, behavior is presumed to be guided not by social rules, but by principles thought to be logical and universal. Right action is guided by personally chosen ethical principles and the dictates of conscience. More recent explications of the theory (Kohlberg, Levine & Hewer, 1983), however, no longer include Stage 6 because of the absence of any empirical support for its existence.

Loevinger's Milestones of Ego Development

Jane Loevinger (1976) offers a more comprehensive model of development than those Perry or Kohlberg. She does not offer any

detailed definition of "ego development," however, something she believes may not be possible, but "ego" is understood to include growth in moral reasoning and interpersonal relations, as well as in cognitive capacity. The ego is seen as a general, organizing framework by means of which individuals view themselves and their worlds.

While Loevinger (1976) postulates nine milestones, only the last six deal with college-level growth. The Conformist Stage is characterized by group-determined behaviors, values and attitudes. The individual's own welfare is linked to that of the group, and the need for acceptance and approval are high. Control is, thus, external to the individual. The individual then passes through the Self-Aware Level: a transition from the Conformist to Conscientious Stage. The salient characteristics of the transition is "an increase in self-awareness and the appreciation of multiple possibilities in situations" (Loevinger, 1976, p. 19). This emerging self-awareness leads, from the unexamined assumptions of the Conformist level toward the more complex reasoning required by the

Conscientious stage. At the Conscientious Stage, rules and values are internalized, and the individual attains the capacity for detachment and empathy. Reasoning is more complex and responsibility for one's actions is recognized. The Individualistic Level: involves a second transition, from the Conscientious to the Autonomous Stage. This second transition phase is "marked by a heightened sense of individuality and a concern for emotional dependence" (Loevinger, 1976, p. 22). Tolerance of self and others grows, and complexity and differences are no longer threatening.

The Autonomous Stage is marked by "the capacity to acknowledge and to cope with inner conflict, that is, conflicting needs, conflicting duties, and the conflict between needs and duties" (Loevinger, 1969, p. 23). Tolerance for ambiguity increases, and apparently conflicting ideas can be integrated. Self-fulfillment begins to replace achievement as a personal goal. At the highest stage, the Integrated Stage the conflicts of the Autonomous phase are transcended and a consolidated sense of identity emerges. Loevinger compares this stage to Maslow's self-actualized person, but notes this state is extremely rare.

COMMONALITIES IN DEVELOPMENTAL THEORIES

As even the brief, preceding summaries make clear, some of the most prominent and influential theories of college student growth vary in a number of important ways, including the end-points of development, the number of stages, the origins of stage-change, and the characterization and labeling of each stage. At the same time, however, it is also apparent that these theories share certain substantive and procedural commonalities. In the belief that the identification of similarities, rather than differences, is more likely to bring focus and coherence to the study of college student change and development, this section seeks to identify both substantive and process themes that appear to be common to all four developmental theories.

Substantive Similarities

Conceptual tables of concordance have been constructed equating the various stages of development as they are depicted across conceptual

models. Table 1, adapted from Knefelkamp, Parker, and Widick (1978, p. 77) illustrates the close substantive parallels among stages across the models give by Perry, Kohlberg and Loevinger. Loevinger (1976, p. 109) has also tabled the stage-similarities of her theory with those of five others including Perry and Kohlberg. Chickering's (1969) "vectors of development" are excluded from Table 1 because they are not offered as "stages" in the same sense as those of the other three theorists. Nonetheless, several similarities are apparent between some of the tabled stages and certain of Chickering's "vectors of development" (the hierarchical quality of Chickering's vectors is discussed below). For example, Chickering's "Managing Emotions" vector is roughly similar to Kohlberg's Stage 3 and to Loevinger's Stage 4. Even more apparent is the conceptual ground common to Chickering's "Autonomy" and "Identity" Vectors and Loevinger's Stages 5-7, Kohlberg's Stages 4 and 5, and Perry's Positions 5 and 6. Finally, Chickering's final vector, "Developing Integrity," clearly parallels the highest stages or positions in each of the other three models.

Moreover, while the precise specification of the developmental end-point varies among the four theories, the progression is invariably toward conditions or characteristics most persons would agree are educational goals. A number of progressive sequences are apparent: from cognitive and affective complexity; from personal irresponsibility to responsibility; from dependence to autonomy and interdependence; from impulsiveness to self-control; from immaturity to maturity; from external controls to internal controls and self-determination; from

self-interestedness to a sense of justice and principled action. For Loevinger (1976), these are all goals subsumed within ego-identity achievement.

Process Similarities

While concordance tables are useful to understanding the substantive conceptual overlap among these theories, similarities in the conceptions of how individuals are presumed to move from one developmental level to another, or about the sources of influence on such movements, remain unexamined. Five "process" commonalities are apparent in these developmental theories of student growth.

1. The impetus for developmental movement originates in a challenge to the current state of development.

Fundamental to each theory of student development reviewed here is the proposition that developmental movement requires some sort of challenge to the developmental stage at which the individual currently operates. This concept is of course, not new. Sanford (1967) asserted this functionalist view: "a person strives to reduce the tension caused by a challenge and thus to restore equilibrium" (p. 49), and the theorists who dominate the conceptual scene in college student research clearly subscribe to this view. "Healthy" adaptive responses are presumed to lead to a reformation of existing cognitive structures that incorporates the new and the old in new, coherent, integrated perceptual structures at the next stage of development. The developmental process is seen as a series of constructions and reconstructions, a sense of the world which requires continuing adjustment to accommodate new perceptions and experiences.

Recalling Heider's "balance" concept, Chickering (1969) reminds us that "significant change sometimes involves a period of disequilibrium, upset, disintegration, out of which a new equilibrium is established" p. 282). Perry (1970) is even more explicit: "each step in the development presents a challenge to a person's previous assumptions and requires that he redefine and extend his responsibilities in the midst of increased complexity and uncertainty" (p. 44).

Although Kohlberg is less specific than Perry on this point, the role of conflict in developmental growth is nonetheless apparent. For Kohlberg, the environment "leads to cognitive stages which represent the transformations of simple early cognitive structures as these are applied to (or assimilate) the external world, and as they are accommodated to or restructured by the external world in the course of being applied to it" (1969, p. 352). Loevinger's position is clear in Blasi's discussion of development (in Loevinger, 1976) from an organismic perspective, from which development is seen "as a series of upheavals and discontinuities" (p. 38). Loevinger, like Perry and Kohlberg, is concerned with the structures of development, and development "consists of the acquisition or change of the basic rules governing the relations among the elements" (p. 33).

2. Cognitive readiness is a necessary, if not sufficient condition, for development.

In each of the theories reviewed, some notion of cognitive readiness is implied or explicitly stated as critical to the perception and awareness of a challenge, to an appropriate adaptive response to

challenge, and, therefore, to advancement along a developmental vector or progression to the next developmental stage.

Although less explicit on this point than Perry, Kohlberg, or Loevinger, Chickering (1969) is not silent. The literature review on which his theory is based revealed "little theory about relationships between intellectual development and other aspects of change" (p. 26). Nonetheless, he maintains that "'ego development' depends partially on the ability to symbolize abstractly the events and objects of one's experience" (p. 27). Implicitly recognizing that symbolizing requires cognitive activity, he states: "increasing intellectual competence assumes significance for other dimensions of development" (p. 27).

Cognition and cognitive development are foundational for Perry's scheme, and we need not argue the point further here. Similarly, For Loevinger, "Cognitive development is the cornerstone of human development as a whole" (Blasi, in Loevinger, 1976, pp. 41-42). For Kohlberg (1972), "One necessary -- but not sufficient no sufficient -- condition for principled morality is the ability to reason logically" (p. 15). Kohlberg maintains, further, that social development is cognitively based. Kohlberg (1969) stresses, however, he is not asserting that "cognition determines affect and behavior, but that the development of cognition and the development of affect have a common structural base" (p. 389; italics in the original).

3. Recognition of complexity and the ability to differentiate are fundamental.

Cognitive capacity and readiness to perceive challenge are intimately related to development because of their role in the perception

of one's world and one's understanding of it, as well as of one's place in it. Writing of Loevinger's theory of ego development, Cross (1981) notes that "the movement is from simple stereotyped thinking and perceptions, through an awareness of multiple possibilities and differentiated views of oneself and society, to conceptual complexity, tolerance of ambiguity, objectivity, and broadened vision" (p. 177). For Perry, the recognition of complexity requires the capacity to differentiate among varying intellectual, attitudinal, or value positions. This recognition of differentiated views is one of the major steps in his conception of students' growth -- the movement from multiplicity to relativism required before choices can be discerned and initial commitments made. Kohlberg's (1972) conception of moral development relies similarly on the individual's capacity to make distinctions and to judge and choose among those things that have been distinguished. Morality is considered "a set of rational principles of judgment and decision" (p. 14). Indeed, the capacity for reasoning and differentiation puts a limit on the moral stage an individual can attain (Kohlberg, 1975).

Chickering (1969) is less explicit than the others, but he clearly recognizes that "conflicting values, diverse behaviors and mutually exclusive models combine to offer multiple alternatives from which a particular identity must be constructed, and then reconstructed again in the light of new opportunities or new frustrations" (p. 92). If one can truly choose among alternatives, it seems reasonable to assume also the ability to differentiate alternatives one from another.

4. The capacity for detachment and empathy controls access to higher developmental levels.

The recognition of the pluralism of knowledge and values, and the capacity and ability to differentiate among alternatives, are precursors another important process common to these developmental models: the ability to empathize with others, to put oneself in the place of another, to adopt another's point of view. Chickering (1969) writes of the "increased tolerance and respect" (p. 94) that emerges as interpersonal relationships are freed from the egocentrism of childhood. It seems reasonable to postulate that some measure of empathy and role playing ability are required before "tolerance and respect" can be accorded to others and their ideas.

Perry (1970) has less than the others to say on this point, although he notes that development requires "a capacity for detachment. One must be able to stand back from oneself, have a look, and then go back in with a new sense of responsibility" (p. 35; italics in the original). While Perry's concern is with the evaluation of ideas and values, Perry would agree that the appraisal of other people and values would involve some amount of role playing. Loevinger (1976) is also generally silent about the role of empathy. Given her conception of ego as "social in origin" (p. 67), however, and her identification of "interpersonal style" as one of "four facets of a single coherent process" (p. 26) called "ego," development it seems equally reasonable to speculate that Loevinger would not deny a functional role to role playing and empathy in ego development.

Kohlberg is explicit about the role of empathy: "Being able, through wide practice, to take another's viewpoint, to 'put yourself in

his place' is the source of the principled sense of equality and reciprocity." Indeed, he continues; "The opportunity for moral role-taking appears to be what is most important in the contribution of the family to moral development" (Kohlberg, 1972, p. 15).

5. Environmental origins of development tend to be seen as secondary to internal, individual origins.

Depending upon which theoretical tradition is consulted, development may be seen to have physiological, sociocultural or psychological origins. Relatively few theorists put all their conceptual eggs in only one of these baskets, of course, but the relative importance attributed to each source of influence can vary considerably. Among the developmentalists discussed here, however, the emphasis is largely on internal, individual changes. While the environment is conceded an influence on the area or content of development, changes in the structures are seen as internal to the individual.

Perry (1970) reports that many of the students in his studies "did not experience the environment as imposing upon them a 'press' to mature. . . . Most experienced the environment as offering not 'press' but 'opportunity'" (p. 50). He concludes that "our students experienced the energy of their development as primarily internal," adding in a footnote his presumption that, while the energy is innate, it probably requires "sustenance and form in interaction with environmental support, implementation, and constraint" (p. 51).

Kohlberg (1969), maintains that "basic mental structure is the result of an interaction between certain organismic structuring tendencies and the structure of the outside world, rather than reflecting

either one directly" (p. 352). Elsewhere, however, he echoes Perry's view of the environment providing opportunities: "The main experiential determinants of moral development seem to be amount and variety of social experience, the opportunity to take a number of roles and to encounter other perspectives" (Kohlberg, 1972, p. 15). Presumably, however, the issues of which opportunities are taken, how they and the responses to them are interpreted, and the nature of a structural reformations are internal affairs and not externally determined.

Chickering (1969) implicitly recognizes the role of the student's environment in his identification of six major institutional "conditions for impact," which occupy the second half of his book. He also acknowledges that "some" developmental tasks arise primarily from social roles and from pressures and opportunities in the social environment" (1981, p. 25). Chickering (1981) also sees the emerging self as a force in its own right.

Loevinger's view appears more balanced: "Sometimes structural changes . . . may depend on internal, even genetic, processes. Other times, they may depend on environmental pressures . . . . The dynamics, however, are basically the same and consist in the interplay of match and mismatch between a structure and its environment" (Blasi, in Loevinger, 1976, p. 35).

OTHER THEORETICAL PERSPECTIVES

While psychologically-based developmental theories of growth have dominated the theory-based research done to date, there is far from complete agreement, even within the developmentalist community, on some

of the central concepts (e.g., the irreversibility of movements across stages, the transcultural or universal character of cognitive structures). Questions also remain about whether structures are domain or content specific and how growth actually occurs. Not everyone sees the world as Piaget did (see, e.g., Gelman & Baillargeon, 1983). While a review of these disputed points is beyond the scope of this paper, critiques of the dominant of the developmentalist perspective in the research on college students, particularly the role assigned to the environment require attention.

Feldman (1972) identifies several troublesome problems in the adoption of developmental models for the study of change in college students. (It is important to recall, at this point, that "change" and "development" are not synonyms).

One problem, says Feldman, is that for research based on a developmental theory change (e.g., between freshman and senior years) on some trait, such as maturational level) is not neutral; it is generally interpreted in developmental terms, as reflecting movement toward a more advanced stage of growth, even when the changes are not in the theoretically expected direction. It is quite possible, of course, that regression in some areas does in fact occur, yet the positive, developmental bias, says Feldman, militates against such interpretations of the evidence.

Feldman (1972) also calls attention to another difficulty with psychologically-based developmental models. In addition to the tendency to "psychologize" all student growth, such models, he believes, also ignore a variety of other changes which college students experience.

He suggests that "some (many?) of the imputed or actual changes in students, prompted by their moving into new (social and pre-occupational) positions in college or by their anticipation of future roles, imply little or nothing about development; these changes simply may lie outside the developmental (growth) framework" (p. 17).

Dannefer (1984), while writing specifically about adult development, offers a similar, even sharper, critique. Dannefer considers the entire developmental approach to be flawed. The conception's propositions of "sequentiality, unidirectionality, an end state, irreversibility, qualitative-structural transformation, and universality" (p. 103) do not take into account the powerful influence exerted by environment. While developmentalists acknowledge environmental influences, as we have seen, that role typically is a supporting, instrumental one, necessary but not sufficient condition providing "opportunitites" that trigger internal, growth-determining mechanisms.

It is an issue that continues to bedevil theoretical attempts to describe and predict human behavior. What are the origins of the impetus for change and growth? Dannefer (1984) has suggested that environmental structures influence the social organization of developmental opportunities at any of three levels: 1) at the societal level (e.g., via stratification patterns based on social class, sex, race or age); 2) at the organizational level (e.g., in bureaucracies, schools, and social service agencies), or 3) at the micro level, where peer and other small group dynamics operate through a variety of mechanisms. A common organizational-level perspective, for example (e.g., Feldman, 1972; Clark, 1960), conceives colleges and universities as "gatekeepers," as

providing a sort of social and occupational sieve controlling who attains certification for access to various socioeconomic status and occupational positions. Through such controls, the proposition goes, institutions also exert considerable influence on students' present and future behaviors, attitudes, values, beliefs and interests. These same institutions, of course, provide a wide variety of environmental settings in which the micro level social-cultural influences of faculty, students and other socializing agents exert influence on the content and direction of student change and growth.

Traditional approaches to individual development, the critics say, do not take adequate account of "(1) the malleability of the human organism in relation to environments; (2) the structural complexity and diversity of the social environment; (or) (3) the role of the symbolic -- of social knowledge and human intentionality -- as factors mediating development" (Dannefer, 1984, pp. 106-107). Dannefer proposes a "sociogenic" theory based on these three principles as an alternative to developmental theories that "tend to treat as 'natural' a subject matter that is irreducibly social in its character" (p. 113).

Feldman proposes that attention be focused on social organizations and the variations among them, with differential student change and stability "inferred directly in terms of the differences among colleges, rather than in terms of the 'preconceived' notions (of developmental) (p. 18). For example, differences among students at different institutions with respect to most variables of interest in student change and growth research would be interpreted as consequences of the variations in institutional characteristics (e.g., size, the status

system, normative values of faculty and student culture(s), rather than, necessarily, as signs of "growth" or development. While certain of the differential impacts observed may be developmental in nature, "In general the social organizational orientation is neutral about or orthogonal to a developmental approach. . . . nothing is implied by the investigators about which shifts do or do not represent development in personality" (p. 19).

Feldman's point, shared here, is that the developmental conception of student change is only one of several possible conceptual models. The various models reviewed, and those proposed by critics, differ in their assumptions, tenets, structures, dynamics and inferences. As Feldman notes (1972), however, this is not to say, that they are completely distinct or incompatible. The important lesson is to understand what the constraints are on any approach (and they all have them), and to bear in mind that reliance on developmental models may lead to misspecification of the origins of student change and growth. "Each (approach) may be necessary to the study of student change and stability during college, but none of them is sufficient" (Feldman, 1972, p. 21).

IMPACT MODELS OF STUDENT CHANGE

Feldman's (1972) recommendation of a social organizational approach to the study of student change is one of a second general category of models of college student change or growth concentrates on the substance or nature of students change, but on their origins, particularly the institutional sources of change. Because of this institutional focus, they tend, not surprisingly, to be more sociological than psychological

in character. These models are much less specific than the theories of individual development, are less detailed in their exposition, and have a less explicit base in other theories (e.g., organizational impact, or industrial psychology).

Astin's Theory of "Involvement"

One of the earliest college impact models was given by Astin (1970), the familiar "input-process-output" model. More recently, Astin (1985) has come to view the purpose of higher education as one of talent development and has proposed a "theory of involvement" to explain the dynamics of how students develop. According to Astin, his theory can be stated simply: Students learn by becoming involved" (p. 133; italics in the original). Seeing elements of his theory in the Freudian notion of "cathexis" (or the investment of psychological energy), as well as in the learning theory concept of time-on-task, Astin suggests five "basic postulates:" 1) involvement requires the investment of psychological and physical energy in "objects" of one sort or another, whether specific or highly general; 2) involvement is a continuous concept: different students will invest varying amounts of energy in different objects; 3) involvement has both quantitative and qualitative features; 4) the amount of learning or development is directly proportional to the quality and quantity of involvement, and 5) educational effectiveness of any policy or practice is related to its capacity to induce involvement in students (Astin, 1985, pp. 135-136).

Whether Astin's propositions constitute a "theory," however, is open to question. While it is included here because of the attention it has drawn among higher educational researchers and administrators, it

probably does not meet generally accepted definitions of "theory," such as that given by Kerlinger (1973), who defines theory "as a set of interrelated constructs (concepts), definitions, and proposition that present a systematic view of phenomena by specifying relations among variables, with the purpose of explaining the predicting the phenomena" (p. 9). Astin offers a general dynamic, a principle, rather than any detailed description of what kinds of behaviors or phenomena are being predicted, the critical variables involved, how they relate to one another, or the precise nature of the process by which growth or change occurs. It remains to be seen whether Astin's involvement proposition is useful in guiding research.

Tinto's Theory of Student Departure

A more explicit model of institutional impact, yet quite similar to Astin's in the dynamics, been given by Tinto (1975, 1987). Tinto's longitudinal model seeks specifically to describe the college student attrition process. According to Tinto (1987), students enter a college or university with varying patterns of personal, family, and academic characteristics and skills, including initial dispositions and intentions with respect to college attendance and personal goals. These intentions and commitments are subsequently modified and reformulated on a continuing basis through a longitudinal series of interactions between the individual and the structures and members of the academic and social systems of the institution. Satisfying and rewarding encounters with the formal and informal academic and social systems of the institution are presumed to lead to greater integration in those systems and to student retention. Negative interactions and experiences tend to distance the

individual from the academic and social communities of the institution, promoting the individual's marginality and, ultimately, withdrawal.

Although Tinto focuses on the college attrition process, an earlier version of his model (Tinto, 1975) has been successfully employed to investigate other student outcomes, such as students' reports of academic skill acquisition (e.g., Terenzini & Wright, 1987a; Volkwein, King, & Terenzini, 1986), personal change (e.g., Terenzini & Wright, 1987b), and major field changes (Theophilides, Terenzini, & Lorang, 1985). Indeed, the underlying dynamic of Tinto's theory of departure -- student integration into the academic and social systems of an institution -- is quite similar to Astin's concept of "involvement," although the investment of physical and psychological energy postulated by Astin is only implied in the Tinto's concept of "integration." Tinto's conceptions of academic and social integration in the more explicit structure than that given by Astin (1985) offers significant opportunities both to researchers who wish to study the college student growth process and to administrators seeking to design academic and social programs and services intended to promote education growth among students.

Pascarella's General Model for Assessing Change

Tinto's (1987) model is largely concerned with intra-institutional influences on students attendance behaviors and with the influences exerted on students' by other individuals (students and faculty members). Less attention is devoted to any specification of the nature or strength of the influences of an institution's structural/organizational

characteristics, or to the role of individual student effort--Astin's "involvement."

Pascarella (1985) has suggested a general causal model that includes more explicit consideration of both an institution's structural characteristics and its general environment, but also is amenable to multi-institution studies of collegiate impact. Drawing on his own work (Pascarella, 1980), as well as that of Lacy (1978), Pace (1979) and others, Pascarella suggests that growth is a function of the direct and indirect effects of five major sets of variables. Two of those sets, students' background and pre-college characteristics, and the structural and organizational features of the institution (e.g., size, selectivity, residential character), together shape the third variable set: a college's or university's environment. These three clusters of variables, in turn, influence a fourth cluster involving both the frequency and content of students' interactions with the major socializing agents on campus (the faculty and other students). Quality of effort, the fifth constellation of variables, is shaped by students' background traits, by the general institutional environment, and by the normative influences of peers and faculty members. Student change is seen as a function of students' background characteristics, interactions with major socializing agents, and the quality of the student's efforts in learning and developing. The structural features of the institution are believed to have an indirect, rather than direct, influence on student development, being mediated through the institution's general environment, the quality of student effort, and students interactions with peers and faculty members.

CONCLUSIONS

An assessment of the strengths and weaknesses of developmental theories for research and administrative applications is beyond the scope and intent of this paper. Such balance sheets have already been prepared for the four developmental theories discussed above (see Knefelkamp, Widick and Parker, 1978) and need not be reiterated here. The purpose of this paper has been to reduce the conceptual diversity among theories of student change by identifying substantive and process issues common to the most prominent theories of student development and by reviewing certain of the identified conceptual weaknesses of the developmental approach. Through these two activities, future research on student change during the collegiate years might be more fruitfully focused on some of the potentially critical encounters between individuals and institutions.

In this effort, it may be useful to think of the two general categories of college student change models identified above (developmental and "impact" models) as members of the families of "basic" and "applied" research. In this light, models of cognitive, ethical, moral, or ego development (and the research based on them) come as close as anything in the literature of higher education to "basic" research. By contrast, the "impact" models discussed are clearly more concerned with describing the nature of the web of influences on student change exerted by collegiate structures, environments and their inhabitants. Implicitly or explicitly, the purpose of these models is to guide research that will enlighten and inform administrative applications.

Feldman (1972), in his critique of the developmental approach, suggested some of the dangers of doing research on college students using a single, developmental paradigm. He has also called attention to the fact that such single-mindedness is not only potentially misleading, tending to "psychologize" and promote developmentally-biased interpretations of change (whether consistent with theoretical expectations or not), but also that such a narrow theoretical orientation is unnecessary. As his social/organizational approach and other impact models make clear, it is possible to study student change without presuming all observed changes reflect developmental growth. Some changes may be developmental, but one need not begin with that premise.

The two research orientations (basic and applied, developmental and impact) come together on the common problem of identifying the origins of student change. While developmental theories are concerned with the sources of change in fundamental, hierarchical structures, the more applied "impact" models seek to identify sources of change -- whether developmental or not -- over which higher educational institutions have some programmatic or policy control. They seek the levers by means of which the educational process can be made more effective, whatever its stated purposes. Between the two traditions, the reasons for inquiring into the origins of change are different, but the questions are essentially the same.

Five change processes or conditions (they need not be seen as "developmental" or hierarchically-dependent) common to the developmental theories of Chickering, Perry, Kohlberg, and Loevinger were identified above (i.e., 1) challenges to current status; 2) cognitive capacity and

readiness; 3) recognition of complexity and ability to differentiate, and 4) capacity for detachment and empathy). The fifth, the environment's role in inducing change, may afford a common conceptual ground on which questions germane to the other four conditions can be addressed by both research traditions (basic and applied, developmental and impact) in mutually beneficial ways.

For example, Perry (1981) has suggested that stages are essentially periods of relative equilibrium and that the transitions between stages may be conceptually more interesting and revealing than the stages themselves. As we have seen, response to some sort of "challenge" is presumed necessary for advancement higher developmental level. From an institutional "impact" perspective, the role of challenges need not be seen in developmental terms, but as nonetheless necessary to inducing desired educational changes in students. Questions such as the following are raised: What are the environmental origins of the challenges that induce change (developmental or otherwise)? Are there environmentally-based challenges that induce change in some structural or content domains but not in others? In some students but not others? Do change-producing challenges vary by presumed level of development? Which sources of change are institutionally manipulable?

Similar questions, relevant to both developmental and impact models, can be asked of the other three processes or conditions common to developmental theories. For example, study of the role of cognitive readiness for learning has both significant programmatic and evaluative implications (how can curricular learning tasks be best sequenced so as to take advantage of individual readiness and thereby maximize the

likelihood of student change or development?), and methodological implications (how can we determine cognitive readiness?). The answers to these questions have implications for a wide-range of academic and non-academic programs and activities (e.g., personal and career counseling, academic advising, student activities, structuring the physical learning environment). What conditions, curricular and otherwise, foster the ability to perceive distinctions and alternatives, to resolve paradoxes? How does the study of various academic disciplines (e.g., art, history, English literature, drama, non-Western civilizations, psychology, sociology) encourage students to put themselves in the place of others?

The point is that each approach to the study of change among college students has much to offer the other. Indeed, focusing on one in exclusion to others is not only likely to result in misspecification of the collegiate change process, but also to be dysfunctional, leading to poor theory, poor research, and poor practice.

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Table 1

A Comparison of Stages in the Theoretical Models of Perry, Kohlberg and Loevinger[a]

Perry (1970) Intellectual & Ethical Development		Kohlberg (1969) Moral Development		Loevinger (1976) Ego Development
				Stage 1: Presocial/ Symbiotic
Position 1:	Dualism	Stage 1:	Fear of Punishment by Authority	Stage 2: Impulsive
Position 2:	Dualism	Stage 2:	Bargaining with Authority to Gain Reward, Avoid Punishment	Stage 3: Self-Protective
Position 3:	Multiplicity Prelegitimate	Stage 3:	Seeking Good Relations and Approval of Family Group	Stage 4: Conformist
Position 4:	Multiplicity	Stage 4:	Obedience to law and Order in Society	Stage 5: Self-Aware
Position 5 & 6:	Relativism	Stage 5:	Concern with Individual Rights and Legal Contract	Stage 6: Conscientious
		Stage 6:	Concern with Consistent Comprehensive Ethical Principles	Stage 7: Individualistic
Positions 7, 8 & 9				Stage 8: Autonomous
				Stage 9: Integrated

[a]Adapted from Knefelkamp, Parker, and Widick (1978, p. 77).